

### **REMARKS**

Claims 1, 22, 102 and 103 have been amended. No new matter has been added.

Claims 1-5, 7, 8, 12, 13, 16, 17, 22, 25, 26, 80-94, 96, 97, and 99-103 are pending.

Applicants thank the Examiner for withdrawing the previous rejections under 35 U.S.C. § 112, second paragraph and under 35 U.S.C. § 102(b). See Office Action at p. 2 and p. 4.

### **CLAIM REJECTIONS**

#### ***Rejection of claims under 35 U.S.C. §102(b)***

##### ***Fleming***

The Examiner has maintained the rejection of claims 1-5, 12, 13, 22 and 102 under 35 U.S.C. § 102(b) as being anticipated by Fleming et al., *Chemical Communications*, 1999, p. 1113-1114 ("Fleming"). See Office Action at p. 2. Claims 2-5, 12 and 13 depend from independent claim 1. Claims 22 and 102 are independent claims.

Specifically, the Examiner contends that "compound 2b, 5-phenyl-pent-2-ynoic acid [] corresponds to an instantly claimed compound." See Office Action at p. 2. In claims 1, 22 and 102, when L is C<sub>4</sub> or C<sub>5</sub> and contains one triple bond and A is phenyl, Y<sup>1</sup> is not a bond or -CH<sub>2</sub>- and Y<sup>2</sup> is -CH<sub>2</sub>-. As such, the compounds described in Fleming are not within the scope of amended claims 1, 22 and 102.

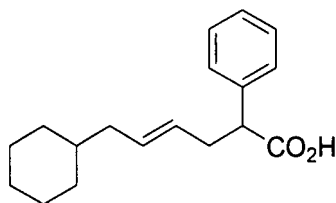
Accordingly, independent claims 1, 22 and 102 and claims that depend therefrom are not anticipated by Fleming for at least the reasons described above. Applicants respectfully request reconsideration and withdrawal of this rejection.

##### ***Herold***

The Examiner has maintained the rejection of claims 1-5, 7, 8, 22, 25, 26, 80-86, 89-94, 96, 97, and 100-103 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,010,189 to Herold et al. ("Herold"). See Office Action at p. 3. Claims 2-5, 7 and 8 depend from independent claim 1. Claims 25 and 26 depend from independent claim 22. Claims 81-86, 89 and 90 depend from independent claim 80. Claims 92-94, 96-97 and 100-101 depend from independent claim 91. Claims 102 and 103 are independent claims.

The Examiner contends that compound "6-cyclohexyl-2-phenyl-4-hexenoic acid [] is an instantly claimed compound wherein L is substituted with monocyclic aryl." See Office Action

at p. 3. The Examiner further states that “[s]ince no specific double bond geometry is disclosed the Examiner assumes that both isomers are present.” *Id.* Applicants respectfully note that the compound described in col. 30, lines 2-7 in Herold is “6-cyclohexyl-2-phenyl-4-hexenoic acid ethyl ester.”



6-cyclohexyl-2-phenylhex-4-enoic  
acid

Herold does not describe the compound of formula (I) in claims 1, 22, 80, 91, 102 and 103 as those compounds do not include an ethyl ester group. Further, in claims 1, 22, 80, 91, 102 and 103, L is a straight hydrocarbon chain optionally containing at least one double bond adjacent to Y<sup>1</sup> or Y<sup>2</sup>. The double bond in the compound of Herold, 6-cyclohexyl-2-phenyl-4-hexenoic acid ethyl ester, is not adjacent to Y<sup>1</sup> or Y<sup>2</sup>. As such, the compounds described in Herold are not within the scope of claims 1, 22, 80, 91, 102 and 103.

Accordingly, independent claims 1, 22, 80, 91, 102 and 103 and claims that depend therefrom are not anticipated by Herold for at least the reasons described above. Applicants respectfully request reconsideration and withdrawal of this rejection.

### ***Jaeger***

The Examiner has rejected claims 1-5, 7-8, 12-13, 16-17, 22, 25, 26 and 80-102 under 35 U.S.C. § 102(b) as being anticipated by Jaeger et al. (European Journal of Medicinal Chemistry, Structure-activity Relationship Studies of Retinoid Cancer Inhibition, 1993, 28, pages 275-290) (“Jaeger”). See Office Action at p. 4. Claims 2-5, 7-8, 12-13 and 16-17 depend from independent claim 1. Claims 25 and 26 depend from independent claim 22. Claims 81-86, 89 and 90 depend from independent claim 80. Claims 92-94, 96-97 and 100-101 depend from independent claim 91. Claim 102 is an independent claim.

The Examiner relies on Jaeger et al. as teaching

“compounds **92** and **93** which correspond to compounds of instant formula (1) wherein A = substituted and unsubstituted phenyl; Y<sup>1</sup>, Y<sup>2</sup>= a

bond; L is a straight chain C<sub>8</sub> hydrocarbon with 4 double bonds in *trans* configuration substituted with methyl groups and X<sup>1</sup>, X<sup>2</sup>=O" and

"compound **120** which corresponds to a compound of instant formula (1) wherein A = C<sub>6</sub> cycloalkenyl; Y<sup>1</sup>, Y<sup>2</sup>= a bond; L is a straight chain C<sub>6</sub> hydrocarbon with 2 double bonds in *trans* configuration substituted with a methyl group and X<sup>1</sup>, X<sup>2</sup>=O."

Claims 1, 22, 80, 91 and 102 includes compounds of formula (I) wherein L is a straight C<sub>3-12</sub> or C<sub>3-6</sub> or C<sub>3-7</sub> hydrocarbon chain optionally containing at least one double bond adjacent to Y<sup>1</sup> or Y<sup>2</sup>, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, hydroxyl, halo, amino, nitro, C<sub>3-5</sub> cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C<sub>1-4</sub> alkylcarbonyloxy, C<sub>1-4</sub> alkyloxycarbonyl, C<sub>1-4</sub> alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-O-, -O-C(O)-(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-N(R<sup>d</sup>)-, or -O-C(O)-O-.

Jaeger describes compounds having methyl substituents between a cyclic moiety and a carbonyl group which is not a hydrocarbon chain being optionally substituted with C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, hydroxyl, halo, amino, nitro, C<sub>3-5</sub> cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C<sub>1-4</sub> alkylcarbonyloxy, C<sub>1-4</sub> alkyloxycarbonyl, C<sub>1-4</sub> alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-O-, -O-C(O)-(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-N(R<sup>d</sup>)-, or -O-C(O)-O-. Thus, independent claims 1, 22, 80, 91, and 102 and dependent claims thereof, are not anticipated by compounds described by Jaeger. Jaeger does not describe pharmaceutical compositions. Rather, the reference describes the use of aqueous solutions, not a compound of formula (I) and a pharmaceutically acceptable carrier.

Accordingly, because Jaeger et al. does not teach each and every element of claims 1-5, 7-8, 12-13, 16-17, 22, 25, 26 and 80-102, Applicants respectfully request reconsideration and withdrawal of these rejections under 35 U.S.C. §102(b).

#### ***Taketani***

The Examiner has rejected claims 1-5, 12-13, 102 and 103 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,196,147 to Taketani et al. ("Taketani"). See Office

Action at p. 5. Claims 2-5, 12 and 13 depend from independent claim 1. Claims 102 and 103 are independent claims.

The Examiner contends that "Taketani discloses ... an exceptionally large number of 5-phenyl-2-cyano-2,4-pentadienoic and 7-phenyl-2-cyano-2,4,6-heptatrienoic acid derivatives which anticipate the instantly claimed compounds." See Office Action at p. 5. Claims 1, 22, 80, 91 and 102 recite a compound of formula (I) wherein " ... L is a straight C<sub>3-12</sub> hydrocarbon chain optionally containing at least one double bond adjacent to Y<sup>1</sup> or Y<sup>2</sup>, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C<sub>2-4</sub> alkenyl, C<sub>2-4</sub> alkynyl, C<sub>1-4</sub> alkoxy, hydroxyl, halo, amino, nitro, C<sub>3-5</sub> cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C<sub>1-4</sub> alkylcarbonyloxy, C<sub>1-4</sub> alkyloxycarbonyl, C<sub>1-4</sub> alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-O-, -O-C(O)-(R<sup>c</sup>)-, -N(R<sup>c</sup>)-C(O)-N(R<sup>d</sup>)-, or -O-C(O)-O- ..."


Accordingly, independent claims 1, 102 and 103 and claims that depend therefrom are not anticipated by Taketani for at least the reasons described above. Applicants respectfully request reconsideration and withdrawal of this rejection.

### CONCLUSION

Applicants believe that the claims now pending are in condition for allowance. Should any fees be required by the present Amendment, the Director is hereby authorized to charge Deposit Account 19-4293.

Respectfully submitted,

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